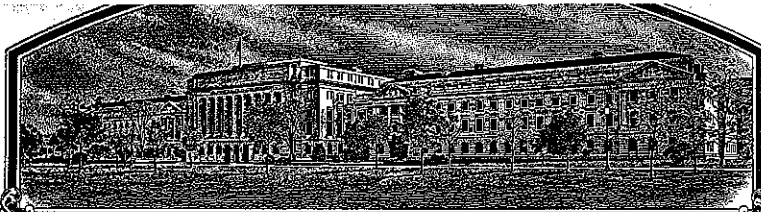


No.

200600065



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Speight Seed Farms, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOBACCO

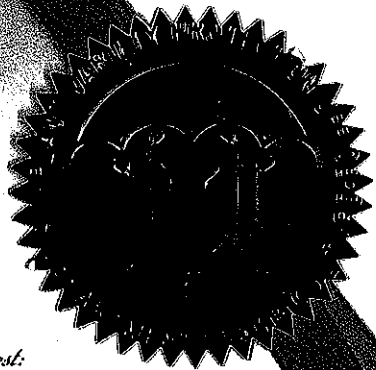
'Speight 220'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of March, in the year two thousand and seven.

Attest:

R. M. Z...
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

W. L. Johnson
Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following state-ments are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER SPEIGHT SEED FARMS, INC.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME SPEIGHT 220		3. VARIETY NAME SPEIGHT 220	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 3719 SPEIGHT SEED FARM ROAD.		5. TELEPHONE (include area code) 252-756-0718		FOR OFFICIAL USE ONLY PVPO NUMBER 200600065	
6. FAX (include area code) 252-756-8699		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) SPEIGHT SEED FARMS, INC.		8. IF INCORPORATED, GIVE STATE OF INCORPORATION NORTH CAROLINA	
9. DATE OF INCORPORATION 11-1-72		10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) RACHEL S. SNYDER P.O. BOX 1250 WINTERVILLE, NC. 28590-1250		FILING DATE JANUARY 17, 2006 MAH 1-18-07	
11. TELEPHONE (include area code) 252-756-0718		12. FAX (include area code) 252-756-8699		FILING AND EXAMINATION FEES: \$ 4,084.00 DATE 1/19/06 CERTIFICATION FEE: \$ 768.00 DATE 2/09/2007	
13. E-MAIL		14. CROP KIND (Common Name) FLUE CURED TOBACCO		15. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
16. FAMILY NAME (Botanical) SOLANACEAE		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
22. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
25. THE OWNERS DECLARE THAT A VIABLE SAMPLE OF BASIC SEED OF THE VARIETY WILL BE FURNISHED WITH APPLICATION AND WILL BE REPLENISHED UPON REQUEST IN ACCORDANCE WITH SUCH REGULATIONS AS MAY BE APPLICABLE, OR FOR A TUBER PROPAGATED VARIETY A TISSUE CULTURE WILL BE DEPOSITED IN A PUBLIC REPOSITORY AND MAINTAINED FOR THE DURATION OF THE CERTIFICATE.		26. THE UNDERSIGNED OWNER(S) IS(ARE) THE OWNER OF THIS SEXUALLY REPRODUCED OR TUBER PROPAGATED PLANT VARIETY, AND BELIEVE(S) THAT THE VARIETY IS NEW, DISTINCT, UNIFORM, AND STABLE AS REQUIRED IN SECTION 42, AND IS ENTITLED TO PROTECTION UNDER THE PROVISIONS OF SECTION 42 OF THE PLANT VARIETY PROTECTION ACT.		27. OWNER(S) IS(ARE) INFORMED THAT FALSE REPRESENTATION HEREIN CAN JEOPARDIZE PROTECTION AND RESULT IN PENALTIES.	
28. SIGNATURE OF OWNER <i>Rachel S. Snyder</i>		29. SIGNATURE OF OWNER		30. NAME (Please print or type) SPEIGHT SEED FARMS, INC. RACHEL S. SNYDER	
31. CAPACITY OR TITLE PRESIDENT		32. DATE 1/16/06		33. CAPACITY OR TITLE 1	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

ITEM

- 18a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

NONE SOLD OUTSIDE OF UNITED STATES

JANUARY 19, 2005 FIRST SALE UNITED STATES

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705.

Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete.

ORIGIN AND BREEDING HISTORY OF THE VARIETY CONTINUED.

EXHIBIT A

- 1999 F7 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT NURSERIES. SINGLE PLANT SELECTIONS WERE MADE FOR DISEASE RESISTANCE. DATA ON YIELD, QUALITY, CHEMICAL COMPOSITION AND PLANT TYPE OBTAINED FROM YIELD, AND QUALITY PLOT. THE LINE WAS JUDGED TO BE UNIFORM AND STABLE AND ADVANCED TO F8 GENERATION. NO VARIANTS WERE OBSERVED.
- 2000 A96 WAS NAMED SPEIGHT 220. F8 GENERATION SEED WAS PLANTED IN THE OFFICIAL VARIETY TEST AS AN ADVANCED BREEDING LINE IN THE FIVE FLUE CURED TOBACCO GROWING STATES. FIVE LOCATIONS IN NORTH CAROLINA, AND ONE LOCATION EACH FLORIDA, GEORGIA, SOUTH CAROLINA AND VIRGINIA FURTHER TESTING WAS CONDUCTED ON SPEIGHT SEED FARMS FOR BLACK SHANK, BACTERIAL WILT, YIELD AND QUALITY AND CHEMICAL COMPOSITION. SINGLE PLANT SELECTIONS WERE AGAIN MADE FOR RESISTANCE. SPEIGHT 220 WAS JUDGED TO BE STABLE. IT COMPARED FAVORABLE TO NC 2326 AND NC95 FOR YIELD, QUALITY AND CHEMICAL THAN THAT OF THE CHECK VARIETIES NO VARIANTS WERE OBSERVED IN THE OFFICIAL VARIETY TEST OR AT SPEIGHT SEED FARMS SPEIGHT 220 ADVANCED TO F9 GENERATION.
- 2001 SPEIGHT 220 WAS PLACED IN THE REGIONAL SMALL PLOT (F9 GENERATION) THIS AGAIN INVOLVED TESTING IN THE FIVE FLUE-CURED TOBACCO GROWING STATES TESTING CONTINUED AT SPEIGHT SEED FARMS FOR DISEASE RESISTANCE, YIELD QUALITY AND CHEMICAL COMPOSITION. SINGLE PLANT SELECTIONS WERE MADE FOR RESISTANCE SPEIGHT 220 WAS GROWN IN LARGER PLOTS ON SPEIGHT SEED FARM. SPEIGHT 220 PASSED THE REGIONAL SMALL PLOT TEST AND WAS RECOMMENDED FOR THE REGIONAL FARM TEST. NO VARIANTS WERE OBSERVED SPEIGHT 220 ADVANCED TO F10 GENERATION.
- 2002 SPEIGHT 220 (F10 GENERATION) WAS PLACED IN THE REGIONAL FARM TEST. THIS INVOLVED ON FARM TESTS IN FOUR FLUE-CURED TOBACCO GROWING STATES ON 12 FARMS. TESTING CONTINUED ON SPEIGHT SEED FARM. IN ON FARM PLOTS, DISEASE NURSERIES AND YIELD AND QUALITY PLOT. SINGLE PLANT SELECTIONS MADE IN DISEASE NURSERIES. THE REGIONAL VARIETY EVALUATION COMMITTEE RECOMMENDED SPEIGHT 220 FOR RELEASE TO GROWERS. IT MET ALL THE REQUIREMENTS OF THE MINIMUM STANDARDS FOR RELEASE. NO VARIANTS WERE OBSERVED.
- 2003 A SEED CROP OF SPEIGHT 220 WAS GROWN ON SPEIGHT SEED FARMS. AND CERTIFIED BY NORTH CAROLINA CROP IMPROVEMENT. SPEIGHT 220 WAS PLACED IN THE OFFICIAL VARIETY TEST IN THE FIVE FLUE-CURED STATES AS A RELEASED LINE SPEIGHT 220'S PERFORMANCE COMPARED FAVORABLE TO THAT OF OTHERS RELEASED VARIETIES. NO VARIANTS WERE OBSERVED.

ORIGIN AND BREEDING HISTORY OF THE VARIETY CONTINUED

EXHIBIT A

2004 SPEIGHT 220 WAS PLACED IN THE OFFICIAL VARIETY IN THE FIVE FLUE-CURED STATES. IT WAS GROWN AS AN EXPERIMENTAL CROP ON SPEIGHT SEED FARMS. SPEIGHT 220'S PERFORMANCE COMPARED FAVORABLE TO THAT OF ALL RELEASED VARIETIES.

A SEED CROP OF SPEIGHT 220 WAS GROWN ON SPEIGHT SEED FARMS AND CERTIFIED BY NORTH CAROLINA CROP IMPROVEMENT. NO VARIANTS WERE OBSERVED.

FALL 2004 SPEIGHT 220 RELEASED TO GROWERS.

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY

NAME: SPEIGHT 220

1992 ORIGINAL CROSS MADE
SPEIGHT SEED FARMS, INC.
WINTERVILLE, NC.

PARENT AGE
A53 (SPEIGHT 116 X K346)
SPEIGHT 116 1989 REGIONAL SMALL PLOT
K346 RELEASED IN 1988

A57 (K346 X SPEIGHT 6-117)
K346 RELEASED IN 1988
SPEIGHT-117 RELEASED IN 1990

1993 A53F1 AND A57F1 PLANTED IN CROSSING NURSERY
AT SPEIGHT SEED FARMS.
A57 MALE PARENT
A57 X A53 DESIGNATED AS A-96
F2 GENERATION

1994 A96 F2 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL
WILT NURSERIES. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE
AND PLANT TYPE.

1995 F3 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL
WILT NURSERIES. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE
AND PLANT TYPE A96 GROWN IN YIELD AND QUALITY PLOT. THERE
IT WAS TESTED FOR YIELD, QUALITY, CHEMICAL COMPOSITION AND
PLANT TYPE.

1996 F4 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT
NURSERIES. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE AND
PLANT TYPE. ALSO GROWN IN YIELD AND QUALITY PLOT. THERE IT
WAS TESTED AGAIN FOR YIELD, QUALITY, CHEMICAL COMPOSITION
AND PLANT TYPE.

1997 F5 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT
NURSERIES. SINGLE PLANT SELECTIONS WERE MADE FOR DISEASE
RESISTANCE. DATA ON YIELD, QUALITY, CHEMICAL COMPOSITION AND
PLANT TYPE OBTAINED FROM YIELD AND QUALITY PLOT.

1998 F6 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT
NURSERIES. SINGLE PLANT SELECTIONS WERE MADE FOR DISEASE
RESISTANCE. DATA ON YIELD, QUALITY, CHEMICAL COMPOSITION AND
PLANT TYPE OBTAINED FROM YIELD AND QUALITY PLOT.

EXHIBIT B. STATEMENT OF DISTINCTNESS

TO OUR KNOWLEDGE SPEIGHT 220 MOST NEARLY RESEMBLES NC2326 AND K346.

SPEIGHT 220 COMPARED TO NC2326.

- 1.- SPEIGHT 220 HAS HIGH RESISTANCE TO BLACK SHANK, BACTERIAL WILT AND ROOT KNOT. NC2326 IS SUSCEPTABLE TO BACTERIAL WILT, ROOT KNOT AND HAS LOW RESISTANCE TO BLACK SHANK.
- 2.- SPEIGHT 220 FLOWERS SIX DAYS LATER THAN NC2326. SPEIGHT 220 MEDIUM MATURITY NC2326 EARLY MATURITY.
- 3.- SPEIGHT 220 HAS AN INTERMEDIATE FLOWER HEAD. NC2326 HAS AN OPEN FLOWER HEAD. NC2326 HAS AN OPEN FLOWER HEAD.
- 4.- SPEIGHT 220 YIELDS 17% MORE THAN NC2326.
- 5.- SPEIGHT 220 HAS TWO MORE LEAVES THAN NC2326 AT TOPPED HEIGHT.
- 6.- THE LEAF COLOR OF SPEIGHT 220 IS LIGHT GREEN. THE LEAF COLOR OF NC 2326 IS DARK GREEN.
- 7.- SPEIGHT 220 HAS A HIGHER GRADE INDEX THAN NC2326.
- 8.- SPEIGHT 220 HAS A WIDER AND LONGER LEAVES THAN NC2326.
- 9.- SPEIGHT 220 LEAVES ARE CLOSER SPACED ON THE STALK THAN NC2326.

SPEIGHT 220 COMPARED TO K346.

- 1.- SPEIGHT 220 HAS HIGHER RESISTANCE TO BLACK SHANK AND BACTERIAL WILT THAN K346. BOTH ARE RESISTANT TO ROOT KNOT.
- 2.- THE LEAF SURFACE OF SPEIGHT 220 IS SMOOTH. THE LEAF SURFACE OF K346 IS PUCKERED.
- 3.- THE LEAF COLOR OF SPEIGHT 220 IS LIGHT GREEN. THE LEAF COLOR OF K346 IS GREEN.
- 4.- SPEIGHT 220 HAS A HIGHER GRADE INDEX THAN K346.
- 5.- SPEIGHT 220 YIELD IS SLIGHTLY HIGHER THAN THAT OF K346.
- 6.- SPEIGHT 220 LEAF SPACING IS SLIGHTLY WIDER THAN THAT OF K 346.
- 7.- THE TOPPED HEIGHT OF SPEIGHT 220 IS LOWER THAN THAT OF K346.
- 8.- SPEIGHT 220 FLOWERS ONE DAY LATER THAN K346.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICEOBJECTIVE DESCRIPTION OF VARIETY
Tobacco (Nicotiana tabacum)

NAME OF APPLICANT(S) SPEIGHT SEED FARMS, INC.	EXPERIMENTAL DESIGNATION(S) SPEIGHT 220	VARIETY NAME OR TEMPORARY DESIGNATION SPEIGHT 220
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 3719 SPEIGHT SEED FARMS ROAD WINTERVILLE, NC. 28590		FOR OFFICIAL USE ONLY PVP NUMBER 200600065

INSTRUCTIONS: Place the appropriate number that best describes the varietal character of typical plants in the blocks below. The symbol ▲ indicates a decimal. Present data for Standard Varieties as requested.

STANDARD VARIETIES AND CODE NUMBERS

01 = NC 95	04 = Hicks	07 = Madole	10 = KY 17	13 = KY 160
02 = NC 2326	05 = Speight G-28	08 = Burley 21	11 = VA 509	14 = Pennbel 69
03 = Coker 319	06 = SC 58	09 = KY 14	12 = Maryland 609	15 = Havana 503
				16 = Other

AREA OF ADAPTATION

1. CLASS

1

1 = Flue-cured
2 = Fire-cured3 = Burley
4 = Maryland5 = Dark/air-cured
6 = Cigar filler7 = Cigar binder
8 = Other

2. MATURITY (Transplant to 50% plants 1 fl.) (Select code from Standard Varieties listed above)

6 8

No. of days

No. of days earlier than

Flowering same as

6

No. of days later than

0 2

Maturity Class:

2 1 = Early (NC 2326, MS KY 14 X L8, MS Bu 37 X L8)
2 = Medium (NC 95, Speight G-28, Coker 319, KY 14, MS Bu 21 X KY 10)
3 = Late (NC 50, Coker 298, VA 509, R7-11)
4 = Very Late (NC 22NF, Bu 64)

3. PLANT HEIGHT (Select code from Standard Varieties listed above)

TOPPED NORMAL

1 2 0 3 cm tall

1 6

cm shorter than

0 2

topped height same as

cm taller than

Height Class:

2 1 = Short (Speight G-28, Bu 49, Bu 64)
2 = Medium (NC 95, NC 2326, Coker 319, KY 14, KY 17)
3 = Tall (Coker 48, Coker 298, C1 501, Bu 21, R7-11)

NOT TOPPED (Height to crown/foot)

1 7 4 cm tall

1 8

cm shorter than

0 2

non-topped height same as

cm taller than

4. LEAF SIZE AND ANGLE (At leaf maturity of harvestable leaves counting from the bottom of plant) (Select code from Standard Varieties listed above):

LENGTH

5TH LEAF

7 6 2

cm length

5

cm shorter than

length same as

1 0 7

cm longer than

0 2

10TH LEAF

7 8 7

cm length

3

cm shorter than

length same as

9 7

cm longer than

0 2

15TH LEAF

7 9 7

cm length

cm shorter than

length same as

2 1 8

cm longer than

0 2

Leaf Length Class (10th leaf or center of plant):

2 1 = Short (Bu 49, Bu 64)
2 = Medium (Bu 21, MS Bu 21 X KY 10)
3 = Long (MS Bu 21 X L8, R7-11)

7

4. LEAF SIZE AND ANGLE (cont'd)

WIDTH - 5TH LEAF

3 5 1

cm width

cm narrower than . . .

width same as . . .

 6

cm wider than . . .

0 2

WIDTH - 10TH LEAF

3 5 6

cm width

cm narrower than . . .

width same as . . .

0 2

cm wider than . . .

WIDTH - 15TH LEAF

3 8 1

cm width

cm narrower than . . .

width same as . . .

 5 6

cm wider than . . .

0 2

☐

Leaf Width Class (10th leaf or center of plant)

1 = Very Narrow

2 = Narrow (NC 2326, Bu 64, KY 10)

3 = Medium (Coker 319, MS Bu 21 X KY 10, KY 14)

4 = Broad (NC 13, Coker 139, MS Bu 21 X L8, CL 59)

5 = Very Broad

LEAF ANGLE (Upper angle between stalk and leaf when turgid)

5TH LEAF

4 5

degrees

degrees less than . . .

angle same as . . .

0 2

degrees more than . . .

10TH LEAF

4 5

degrees

degrees less than . . .

angle same as . . .

0 2

degrees more than . . .

15TH LEAF

4 5

degrees

degrees less than . . .

angle same as . . .

0 2

degrees more than . . .

 ☐

Leaf Angle Class (10th leaf or center of plant)

1 = Upright (35 degrees) (Speight G-70, K 399, Bu 49, Bu 64)

2 = Medium Upright (35 - 45 degrees) (NC 73, Speight G-15, MD 10, KY 14, Bu 21)

3 = Medium Drooping (46 - 65 degrees) (Coker 48, Coker 176, MS KY 14 X L8)

4 = Drooping (65 degrees)

5. LEAF YIELD (Select code from Standard Varieties listed above)

3 5 8 6

kg/ha yield

% less yield than . . .

yield same as . . .

1 7

% more yield than . . .

0 1

6. LEAF NUMBER (Not including 2 bed leaves) (Select code from Standard Varieties listed above)

TOPPED NORMAL

4 7 4

No. per plant

No. leaves less than . . .

Leaf no. same as . . .

 6

No. leaves more than . . .

0 2

NOT TOPPED (No. of leaves or nodes to crowfoot from 1st harvestable leaf)

6 9 0

No. per plant

No. leaves less than . . .

Leaf no. same as . . .

 1 0

No. leaves more than . . .

0 2

7. INTERNODES AND STALKS (Plants topped normal) (Select code from Standard Varieties listed above)

5 1

mm length

 5

mm shorter than . . .

0 2

Internodes same as . . .

mm longer than . . .

 ☐

Internode Length Class

1 = Short (Speight G-28, Bu 64, Bu 49)

2 = Medium (Coker 319, KY 14)

3 = Long (NC 2326, MS Bu 21 X L8)

☐

Stalk Diameter Class

1 = Small (KY 14, MS Bu 21 X KY 10)

2 = Medium (MS KY 14 X L8, R7-11)

3 = Large (VA 509, KY 17)

8. LEAF CHARACTERISTICS

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2 LEAF CARRIAGE (Midrib)

- 1 = Arched
2 = Not arched (Coker 347, Bu 21)

1 TIP SHAPE

- 1 = Acute (MD 64)
2 = Acuminate (Speight G-70, McNair 373, Coker 48)
3 = Obtuse (MD 872, Reams 64, NC 13)

2 LEAF MARGIN

- 1 = Wavy (McNair 944, MD 59)
2 = Not wavy (McNair 373, Speight G-70)

1 LEAF COLOR

- 1 = Light green (Coker 298, K 399, MD 609)
2 = Green (NC 95, Coker 48)
3 = Dark green (MD 10, MD 201, KY 14, KY 15)

2 VENATION PATTERN

- 1 = Square (McNair 944)
2 = Angular (Speight G-70, Hicks)

2 LEAF MARGIN CURVING

- 1 = Recurved (MD 59)
2 = Not recurved (Speight G-70, McNair 373)

2 LEAF SHAPE

- 1 = Broadest at middle of leaf (Coker 176)
2 = Broadest below middle (K 399, McNair 373)
3 = Broadest above middle (Speight G-140)

1 LEAF SURFACE (Web, Rugosity)

- 1 = Smooth (Hicks, Speight G-70)
2 = Puckered (NC 95)

9. FLOWERS

2 COLOR

- 1 = White
2 = Pink
3 = Red
4 = Other (Specify) _____

2 FLOWER HEAD HABIT

- 1 = Closed (NC 95, Bu 21)
2 = Intermediate (NC 89)
3 = Open (Hicks, NC 2326)

10. PLANT FORM

1

- 1 = Pyramidal (Coker 176)
2 = Columnar (K 326, Bu 49, Bu 64)
3 = Inverted cone
4 = Other

11. GROUND SUCKERS (Select code from Standard Varieties)

0 0 No. per plant

No. per plant less than 0 3

No. per plant same as . . .

No. per plant more than . . .

12. DISEASE

- 0 = Not tested
1 = Susceptible

- 2 = Low resistance
3 = Moderate resistance

- 4 = High resistance

4 Black Shank (*Phytophthora parasitica* var. *nicotianae* race 0)0 Black Shank (*Phytophthora parasitica* var. *nicotianae* race 1)0 Black Root Rot (*Thielaviopsis basicola*)0 Blue Mold (*Peronospora tabacina*)0 Wildfire (*Pseudomonas tabaci*)0 Blackfire or Angular Leaf Spot (*Pseudomonas angulata*)0 Fusarium Wilt (*F. oxysporum* var. *nicotianae*)0 Fusarium Wilt (*F. oxysporum* var. *batatas*)0 Frog-eye (*Cercospora nicotianae*)0 Brown Spot (*Alternaria alternata*)4 Bacterial Wilt (Granville Wilt) (*Pseudomonas solanacearum*)

0 Potato Virus Y (Vein banding)

0 Tobacco Vein Mottling Virus (TVMV)

1 Tobacco Mosaic Virus (TMV)

0 Tobacco Etch Virus

0 Cyst Nematode (*Heterodera tabacum*)0 Nematode Root Rot (Lesion) (*Pratylenchus* spp.) Species _____4 Root Knot Nematode (*Meloidogyne* spp.) Species INCOGNITA

0 Ozone Air Pollution (Weather fleck)

Other (Specify) _____

Other (Specify) _____

13. LEAF CONSTITUENTS (Give data for application and a Standard Variety)

3 3 9 % Nicotine

3 4 9 % Nicotine (standard) 02

1 6 % Nor Nicotine

2 1 % Nor Nicotine (standard) 02

2 5 3 % Total Nitrogen

2 5 9 % Total Nitrogen (standard) 02

4 1 9 % R. Sugars Flue-cured

3 5 2 % R. Sugars Flue-cured (standard) 02

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE(S) THE APPLICATION VARIETY. (For the following characteristics indicate "Degree of Resemblance" by placing in the column marked "D.R.," one of the following numbers)

- 1 = Application variety is less than comparison variety
 2 = Same as
 3 = More than, better, greater, darker, etc.

CHARACTERISTICS	VARIETY(S)	D.R.	CHARACTERISTICS	VARIETY(S)	D.R.
Flowering	K346	2	Leaf tip shape	K346	2
Leaf length	NC2326	3	Venation pattern	NC2326	2
Leaf width	NC2326	3	Leaf surface	NC2326	2
Leaf carriage	NC2326	2	Leaf margin	NC2326	2
Petiole angle	K346	2	Leaf color	K346	3
Leaf shape	K346	2	Plant form	K346	2

15. COMMENTS (Describe all characters and conditions that cannot be adequately described in this form (lodging resistance disease ratings compared to standard checks, etc.)

SPEIGHT 220 MOST RESEMBLES NC 2326 FOR CERTAIN CHARACTERISTICS AND K346 FOR OTHERS.

SPEIGHT 220 RESEMBLES NC2326 FOR LEAF CARRIAGE, VENATION PATTERN LEAF SURFACE AND LEAF MARGIN. SPEIGHT 220 HAS RESISTANCE TO BLACK SHANK, BACTERIAL WILT AND ROOT KNOT NEMATODES.

NC2326 IS SUSCEPTABLE TO BACTERIAL WILT AND ROOT KNOT NEMATODES

SPEIGHT 220 HAS AN INTERMEDIATE FLOWER HEAD, NC2326 HAS AN OPEN

FLOWER HEAD. THE LEAF COLOR OF SPEIGHT 220 IS LIGHT GREEN AND

THAT OF NC 2326 IS DARK GREEN. SPEIGHT 220 OUT YIELDS NC2326 BY 17%.

SPEIGHT 220 HAS HIGHER GRADE INDEX, CLOSER SPACED LEAVES THAN

NC2326, SPEIGHT 220 HAS WIDER AND LONGER LEAVES THAN NC 2326.

SPEIGHT 220 MOST RESEMBLES K346 FOR FLOWERING, PETIOLE ANGLE LEAF LEAF SHAPE, LEAF TIP SHAPE AND PLANT FORM THE LEAF SURFACE OF SPEIGHT 220 IS SMOOTH, THAN OF K346 IS PUCKERED.

THE LEAF COLOR OF SPEIGHT 220 IS LIGHT GREEN WHILE THAT OF K346 IS GREEN. SPEIGHT 220 HAS A HIGHER GRADE INDEX THAN K346.

SPEIGHT 220 HAS HIGHER RESISTANCE TO BLACK SHANK AND BACTERIAL WILT THAN K346.

TABLE 2. COMPARISON OF ENTRIES IN REGIONAL SMALL PLOT TEST ACROSS LOCATIONS 2001

CODE	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRD IND	TOT. ALK. %	RED. SUG. TA	RED. SUG. %	PLANT HEIGHT INCHES	LEAF NO.	DAYS TO FLOWER
NC 2326	2538	4530	177.85	72	3.11	6.70	18.9	37.7	16.8	62
SP220	2850	5147	180.06	80	2.88	7.15	18.6	36.8	18.0	68

TABLE 14 FLUE - CURED TOBACCO DISEASE RATINGS 2001

	BLACK SHANK 2	BACTERIAL WILT 2	ROOT KNOT 3
NC2326	13.3	38	SUSPITICAL
SPEIGHT 220	0	2	RESISTANT

1.- HIGHER NUMERICAL RATINGS INDICATE GREATER SUSCEPTIBILITY.

2.- FOR BLACK SHANK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN. THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASE AND THE TIME DURING THE GROWING SEASON WHEN SYMPTOMS APPEARED.

3.- ROOT KNOT (MELOIDOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRYING RESISTANCE OR IS SUSCEPTIBLE.

TABLE 9. COMPARISON OF ENTRIES IN REGIONAL FARM TESTS-VARIETIES COMBINED OVER GEORGIA, SOUTH CAROLINA AND VIRGINIA-2002

CODE	YIELD LBS/A	VALUE		INDEX \$/CWT	NIC. %	TOT. SEC.		TOT. ALK.	TSA /TA %	NIT. NIC.		RED. SUG. NIC.		RED. TOT. NIC. USABLE	
		\$/A	\$/A			ALK.	ALK.			NIC.	NIC.	%	%	%	%
NC2326	2726	4265	158.10	3.49	0.21	3.70	5.7	0.75	3.52	11.3	2.59	25.5			
SP220	3199	5588	174.25	3.39	0.16	3.55	4.4	0.76	4.19	13.1	2.53	51.1			

TABLE 13. FLUE-CURED TOBACCO DISEASE RATINGS 2002

	BLACK SHANK 2	BACTERIAL WILT 2	ROOT KNOT 3
NC2326	39.0	50.5	SUSCEPTABLE
SP220	12.3	10.7	RESISTANT

1. HIGHER NUMERICAL RATINGS INDICATE GRATER SUSCEPTIBILITY.

2. FOR BLACK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN. THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASE AND THE TIME DURING THE GROWING SEASON WHEN SYMPTOMS APPEARED.

3. ROOT KNOT (MELOIDOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRYING RESISTANCE OR IS SUSCEPTIBLE.

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PERFORMANCE OF COMMERCIAL VARIETIES IN THE NORTH CAROLINA OFFICIAL VARIETY TEST, COMBINED
OVER FOUR LOCATIONS, 2004.

VARIETY	YIELD LB/A	VALUE \$/A	PRICE INDEX \$/CWT	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	LEAF SPACING INCHES	CURED LEAF ANALYSES			
									RED. TOT.	SUG. ALK.	%	RATIO SUG. TO ALK
K346	2876	4965	172.52	71	61	18.6	45	2.40	17.63	2.11		9.28
SP220	2946	4998	169.01	66	62	17.9	43	2.44	16.36	2.45		7.42

TABLE 9-4a. RESISTANCE RATINGS OF CERTAIN VARIETIES TO BLACK SHANK AND GRANVILLE WILT 2004

VARIETY	RATING	BLACK SHANK			VARIETY	RATING	GRANVILLE WILT		
K346	12					19			RESISTANT
SP220	8					16			RESISTANT

1. HIGHER NUMERICAL RATINGS INDICATE GREATER SUSCEPTIBILITY.

2. FOR BLACK SHANK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN.
THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASED AND THE TIME DURING THE
GROWING SEASON WHEN SYMPTOMS APPEARED.

3. ROOT KNOT (MELODOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRYING
RESISTANCE OR IS SUSCEPTIBLE.

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EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) SPEIGHT SEED FARMS, INC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER SPEIGHT 220	3. VARIETY NAME SPEIGHT 220
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3719 SPEIGHT SEED FARM RD. P.O. BOX 1250 WINTERVILLE, NC. 28590	5. TELEPHONE (Include area code) 252-756-0718	6. FAX (Include area code) 252-756-8699
7. PVPO NUMBER		200600065

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES☐ NO

10. Is the applicant the original owner?

☒ YES☐ NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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